

Poisonous and Non-poisonous Snakes

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Poisonous and non-poisonous Snakes - **Dr. Laxmikant Shinde**

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❑ India contribute worlds ten percent diversity of snake species .

❑ Globally reported 2000 species of snakes.

❑ India recorded 200 species of snakes.

❑ 10 species are considered to be highly poisonous.

❑ Length varies from 10 cm to 6 mtr.

- ❑ Snakes are belongs to order squamata**
- ❑ Body is elongated, cylindrical, tapering towards posterior**
- ❑ Mouth is capable for wide opening**
- ❑ Eyelids are immovable**
- ❑ Good sense of hearing**
- ❑ Tongue forked it acts as auditory organ for receiving earth borne vibration**

❑ Feed exclusively on living animals never kill their prey.

❑ Some snakes like Python kill their prey by crushing.

❑ Poisonous apparatus is present in their head.

❑ Fangs are present in poisonous snake.

❑ Solid teeth in non poisonous snake.

The identification of poisonous snakes is very important since medical treatment will be different for each type of venom.

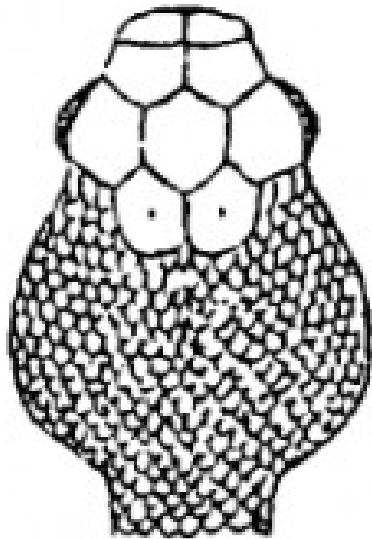
Unless it can be positively identified, the snake should be killed and saved.

When this is not possible or when doing so is a serious threat to others,

Identification may sometimes be difficult since many venomous snakes resemble harmless varieties.

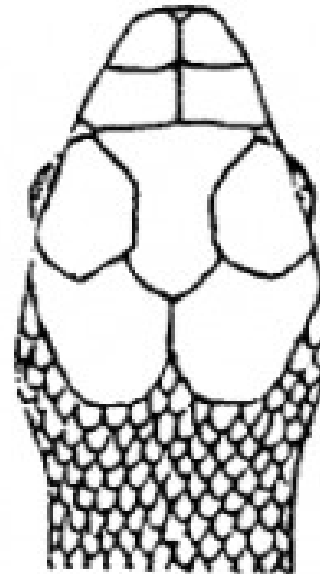
Types of Snakes

Poisonous Snakes.



Venomous

Nonpoisonous Snakes.



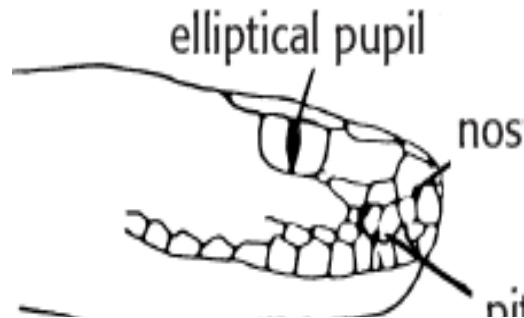
Nonvenomous

Difference between

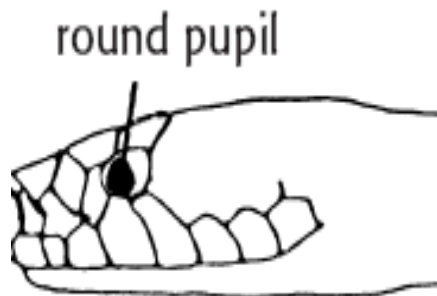
Sr .	Poin ts	Poisonous snakes	Non Poisonous
1	Belly scales	Large : They cover the entire breadth of belly	Small : They never cover
2	Head scales	a) Usually small in vipers b) May be large in pit vipers c) Cobras and Coral snakes where third labial touches the eye and nasal shields d) Kraits ,where there is no pit and the third labial does not touch the nose and eye	Are usually large with exceptions as outlined under poisonous snakes
3	Fangs	Are hollow like hypodermic needle	Short and solid
4	Tail	Compressed	Not markedly compressed
5	Habits	Usually nocturnal	Not so
6	Teeth bite marks	Two fang marks with or without marks of other teeth	Two fang marks with number of small teeth marks

Identification key for **Poisonous** and **Non-poisonous** Snakes

Pupil shape



Poisonous snakes



Non-poisonous snakes

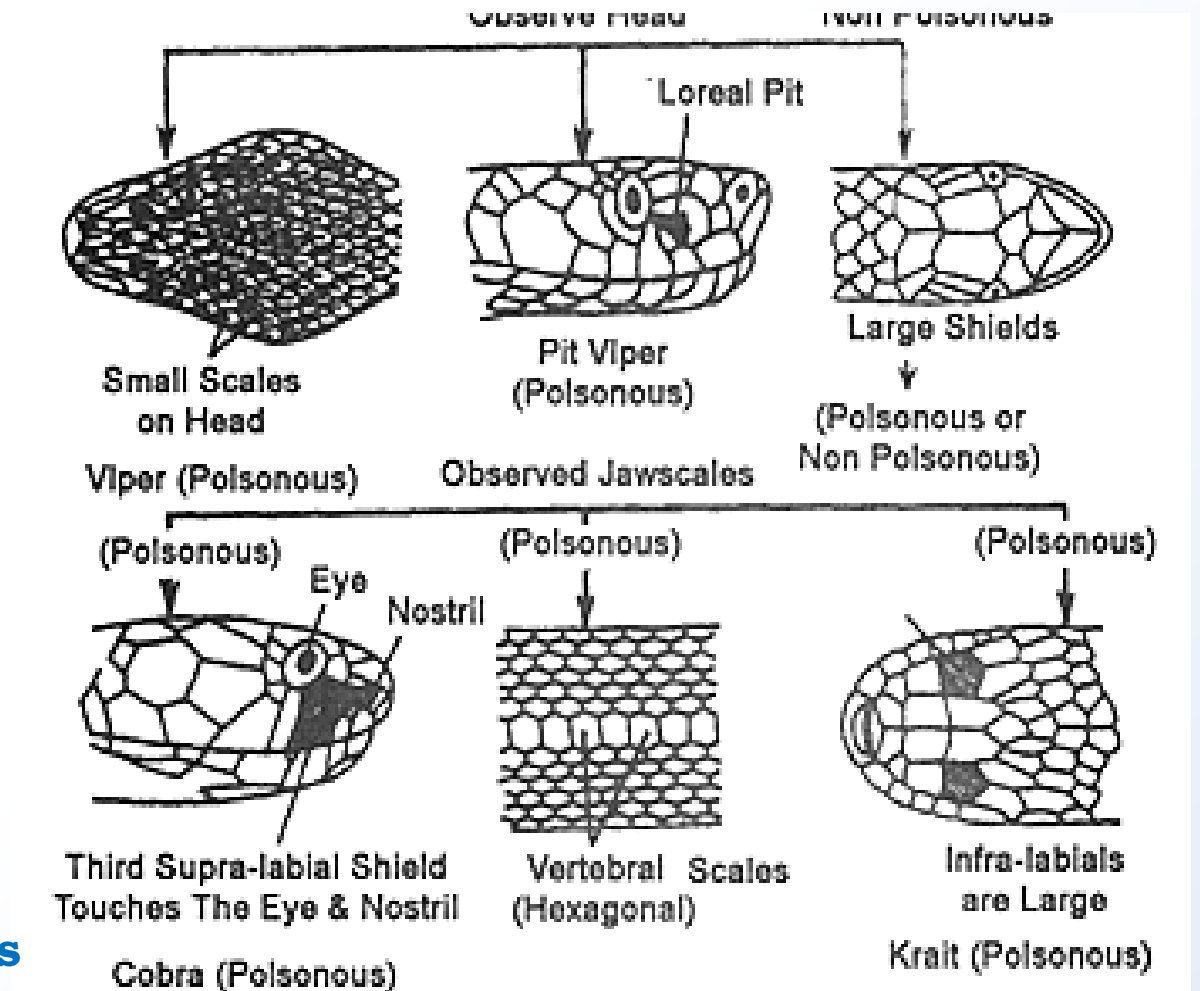


Table of Identification of Poisonous and Non Poisonous Snakes

Identification of
Non Poisonous or Poisonous

Observe Tail

Pointed Cylindrical Tail



Land Snakes

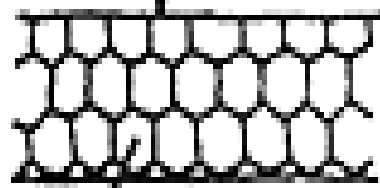
Flat Tail



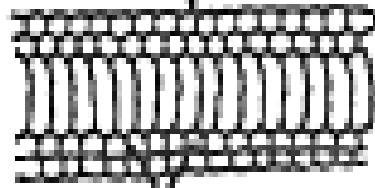
Sea Snakes (Poisonous)

Flat & Laterally
Compressed Tail

Observed Ventrals



Small Belly Scales

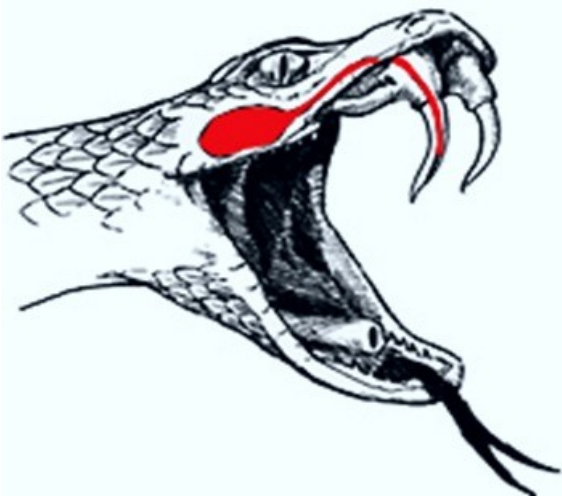


Narrow Belly Scales



Wide Belly Scales

Classification of snakes



Poisonous snakes belong to three Families on the basis of poison secreted :

1. **Elapidae** : Neurotoxic
2. **Viperidae** : Vasculotoxic
3. **Hydrophidae** : Myotoxic

Action of snake venom

1. Respiratory paralysis
2. Destroy Blood vessels
3. Destroy erythrocytes
4. Blood coagulation

Snakes

Poisonous

Non-poisonous

•Colubridae (oviparous)

Elapidae (Land snakes)
Cobra, King cobra,
Krait, Banded krait,
mambas, copperhead

•Viperidae (viviparous)

*Russel's viper, Saw-scaled
viper, Pit vipers, Rattle
snakes, Adders*

Crotalidae

Rattlesnakes, pigmy
rattlesnakes, copperheads,
cottonmouths

Hydrophidae (Sea snakes)

1. ELAPIDAE

A) Common Cobra / Nag or Kalsap or *Naja naja*

B) King Cobra – Raj Nag or *Naja hanna* or *Naja bangarus*

C) Krait : Subgrouped into :

a). Common krait or *Bangarus caeruleus*

b). Banded krait or *Bangarus fasciatus*

c). Coral snake

d). Tiger snake

e). Mambas

f). Death adder

Common Cobra / Nag or Kalsap or Naja naja Indian (Spectacled) Cobra



Distinctive Features:

Medium-sized to large;
smooth, shiny scales; wide
head and neck;

Wide black band on underside
of neck;

Distinctive hood marking on
top of neck.

Single (monocellate) or
double spectacle mark.

Distribution: Throughout
India, sea level up to 4000
m (in the Himalayas, Burma
and Srilanka)

King Cobra

Distinctive Features: Large; smooth, shiny scales; distinct light cross bands mainly on the fore body; large head scales edges with black.

Distribution: Rare in India, King Cobras are confined mostly to the dense forests of the Western Ghats and the northern hill forests. Nilgiris, Plains and Western Ghats up to Goa, the Himalayan foot hills (upto 2000 m) starting near Lahore in Pakistan through North Indian to Assam. Forests of Orissa, Bihar, West Bengal and the Andamans.

2. VIPERIDAE

They are grouped into:

A). Pitless Vipers : They are

a). Russel 's Viper

b). Saw-scaled Viper

B). Pit Vipers : They are

a). Pit Viper- Crotalidae

b). Common Green Pit Viper

Russells Viper- *Vipera russellii* Haematotoxic

Distinctive Features: Medium-sized to large; strongly keeled scales; distinctive bright chain pattern; large triangular head.

Distribution: Hills and plains throughout India upto 3,000 m.



Description: Russells Vipers are heavy, rough-scaled snakes with vertical eye pupils and generally a very bright pattern.

The body colour is usually brown or yellowish and the pattern is composed of dark, round spots edged with white and black.

The underside is white in the western, partly speckled in the southeastern and heavily speckled in the northeastern race.

Colour variation is common, and the best recognition characters are the short, fat body, the triangular-shaped head and very regular chain like pattern.

Russells vipers resemble the fat, harmless common sand boas which however have shorter and blunter tails and irregular body patterns.

The bright symmetrical spots on Russells Viper's backs make them easy to differentiate. Russells Vipers are one of the big Four dangerous snakes of India.



Saw scaled viper (carpet viper)

Echis carinatus

Haematotoxic

Description:

- ❑ A rough scaled snake with large eyes, wider head than neck and stocky body.
- ❑ The body is brown, grayish or sandy with a darker zigzag pattern on the back and a distinct cross or lance mark on the head.
- ❑ The underside is white with brown speckles.
- ❑ The tail is short and stubby. Saw-scaled Vipers are the smallest of the Big Four venomous snakes.

Distinctive Features: small; strongly keeled scales; head wider than neck; dull colour; cross mark on top of head distinctive.

Distribution: Throughout India, mostly on the plains. In northwest India, Saw-scaled Vipers are reported from up to 2000m on the hills. They are plentiful in certain area such as Ratnagiri District in Maharashtra, parts of Punjab, Rajasthan, Tamil Nadu and Andhra Pradesh.



Banded Krait - *Bungarus fasciatus*

Distinctive Features: Medium-sized to large; smooth, shiny scales: wide bright yellow and black bands on back.

Distribution: Assam, Bengal, Bihar, Orissa and reported in parts of Madhya Pradesh, Andhra Pradesh and Uttar Pradesh. Found upto 1500 m above sea level.



Slender Coral Snake - *Callophis melanurus*

Distinctive Features: small, slender; smooth, shiny scales: blunt, black head; tail black, scarlet and blue.



Distribution: Reported from the most parts of India on the plains, except central and northwestern India. Mac Clelland's Coral Snake is found up to 4000 m in the Himalayas.

Common Krait - *Bungarus caeruleus*

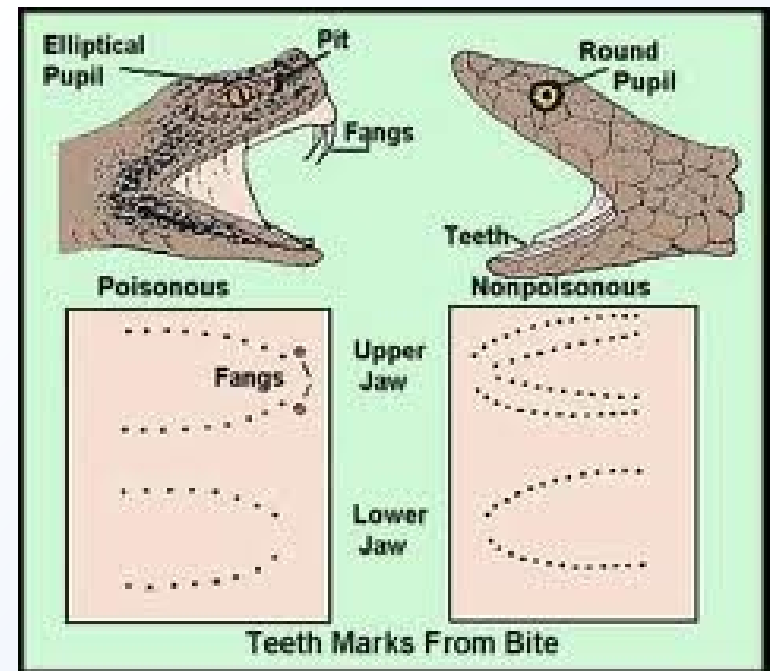
Distinctive Features: Medium-sized; smooth, glossy scales; head slightly wider than neck: jet-black, usually with distinct white cross lines.

Description: The body colour varies from a dark steely blue-black in a specimen which has freshly shed its skin to a pale faded bluish grey in one just about to shed. There are normally about 40 thin white cross bands. The young and some adults may have white spots along the first third of the backbone in place of the cross lines. This variation as well as uniform black variants appear in certain geographic races.

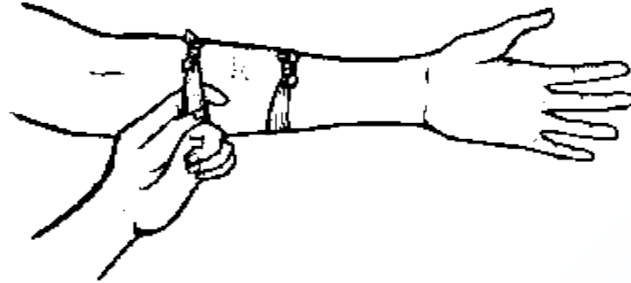
Distribution: Most of India including the Andaman and Nicobar Islands: sea level up to 1700 m. uncommon in Bengal, Assam and Orissa, where the Banded Krait is found

Signs and Symptoms of snake bite;

- ❑ One or two small puncture marks
- ❑ Pain, redness, and possible swelling
- ❑ Nausea and vomiting
- ❑ Disturbed vision
- ❑ Sweating



First Aid



- 1 Move victim away from snake
- 2 Remove all jewelry from affected area, if applicable
- 3 Reassure victim and keep him quiet
- 4 Apply constricting band, 1-2 finger breadths from the bite.

You should be able to insert a finger between the band and skin

a. Arm or Leg bite. Place one band above and one band below the bite site

b. Hand or Foot bite. Place one band above the wrist or ankle

5. Immobilize the affected part in a position below the level of the heart

DON'TS-

☐ Incision

☐ Suction

☐ Application of Ice ,
massage or any
chemical treatment